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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,274	03/19/2001	Samuel M. Babb	10992052-1	2356

7590 03/28/2002
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

NGO, HUNG V

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 03/28/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,274

Applicant(s)

Babb et al

Examiner

Hung V. Ngo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 15, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above, claim(s) 1-35 and 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5, 7
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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DETAILED ACTION

Claim Objections

Claims 37 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 36-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36, lines 1-2 "a printed circuit board comprising: a printed circuit board" is confusing

Claims 37-51 are included because of their dependencies.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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1. Claims 36-39 rejected under 35 U.S.C. 102(b) as being anticipated by Jones.

Jones discloses a printed wiring board (10); a plurality of components (12, 14, 16) mounted on said printed wiring board; and an electrically continuous conformal coating for providing an EMI-impervious shield conformingly and adheringly on the printed circuit board, including a conductive coating (26) that prevents the electromagnetic waves from passing therethrough, said conductive coating conformingly and adheringly coating the surface of one or more regions of the printed circuit board, wherein said conductive coating of each said region is electrically connected to each other, and a dielectric coating (24, 38) interposed between said conductive coating and predetermined portions of each said printed circuit board region, wherein said dielectric coating completely insulates said predetermined portions of said printed circuit board region (re claim 36, 37).

Re claim 38, wherein said regions of said conformal coating are physically contiguous.

Re claim 39, wherein said printed circuit board comprises a plurality of grounding pads mounted in said printed wiring board, wherein said conductive coating is connected electrically to said grounding pads, wherein said ground pads are electrically connected to a ground source of the printed wiring board (col 2, lines 39-42).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36-51 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Heiss

Suzuki discloses a printed wiring board (200); a plurality of components (220) mounted on said printed wiring board; and an electrically continuous conformal coating for providing an EMI-impervious shield conformingly and adheringly on the printed circuit board, including a conductive coating (330) that prevents the electromagnetic waves from passing therethrough, said conductive coating conformingly and adheringly coating the surface of one or more regions of the printed circuit board, wherein said conductive coating of each said region is electrically connected to each other.

Re claim 38, wherein said regions of said conformal coating are physically contiguous.

Re claim 39, wherein said printed circuit board comprises a plurality of grounding pads (224, 225) mounted in said printed wiring board, wherein said conductive coating is connected electrically to said grounding pads, wherein said ground pads are electrically connected to a ground source of the printed wiring board.

Re claims 40, 51 wherein said printed wiring board comprises a ground plane (210) and wherein said grounding pads (224, 225) are connected to said ground plane through a ground via.

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Re claim 41, wherein said printed circuit board further comprises a shielded connector mounted on said printed wiring board, said shielded connector connected to a shielded cable through which signals travel (col 1, lines 18-19)

Re claim 43, wherein said ground pads are mounted around a periphery of said printed wiring board, and wherein said first and second regions are connected electrically through said ground plane (Fig 5).

Re claim 44, wherein said printed circuit board has edge plating (226) connected electrically to said first and second regions of said conformal coating.

Re claim 45, wherein said edge plating is electrically connected to a ground plane of said printed wiring board (Fig 6).

Re claim 46, wherein said electrical connection between said first and second regions is provided by a combination of: a ground land mounted on said top surface and said bottom surface of said printed wiring board proximate to the edge of said printed wiring board; and a plurality of electrically conductive spring clips (226) spaced around said printed wiring board so as to contact said ground lands on said top and bottom surfaces of said printed wiring board.

Re claim 47, wherein said electrical connection between said first and second regions is provided by a plurality of electrically conductive spring clips (226) spaced around said printed wiring board so as to contact said conductive coating of said first region and said conductive coating of said second region.

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Re claim 48, wherein said printed wiring board comprises signal traces formed on the surface thereof, wherein one or more of the following features are selected alone or in combination such that said surface signal traces have a desired characteristic impedance: width of said surface signal traces; thickness of said surface signal traces; dielectric constant of said dielectric coating; and thickness of said dielectric coating (inherent).

Re claim 49, wherein said printed wiring board comprises signal traces formed on surfaces of internal layers only of said printed wiring board.

Re claim 50, wherein one or more components are coated individually with a conformal EMI shield, wherein said component shield is electrically connected to said conformal coating on said printed circuit board

The teaching of Suzuki as discussed above does not disclose a dielectric coating interposed between said conductive coating and predetermined portions of each said printed circuit board region, wherein said dielectric coating completely insulates said predetermined portions of said printed circuit board region (re claim 36, 37), a connector (re claim 41), a second region covering at least a portion of a bottom surface of said printed wiring board (re claim 42).

Heiss discloses a dielectric coating (7) interposed between said conductive coating and predetermined portions of each said printed circuit board region, wherein said dielectric coating completely insulates said predetermined portions of said printed circuit board region and a second region covering at least a portion of a bottom surface of said printed wiring board.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the dielectric coating and the second region with the structure of Suzuki for the purpose of protecting the components.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (703) 308-7614. The examiner can normally be reached on Tuesday to Friday from 8:30 am to 06:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard, can be reached on (703) 308-3682.

The fax phone number for this Group is (703) 305-3431 or (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Hung V. Ngo

March 25, 2002

Hung V. Ngo

HUNG V. NGO
PATENT EXAMINER